

## **CONCISE EXPLANATION**

(1) JP 9-8525 Y2

Publication date: Jun. 23, 1934

< Description on the Relevance >

This is a document cited in the International Search Report.

(Abstract)

A structure of safety switch, comprising:

a key support (7) having a hole for hooking a leg of key (12), which is held by fixed part, retained at home position by a force from a spring (10), when said key support (7) is rotated by measure of the angle as prescribed by twisting the key (12), and allowed to move down along with the key (12) moving down;

a switching member (9) which is fixed on an axis retained in a manner to be free to move along the axial direction but inhibited from turning; and

a key (12) which is hooked by the hole made on said key support (7), and by a key hole made on the other fixing plate, wherein

said key support (7) and said axis of said switching member (9) are linked only when moving along the axial direction, and said key support (7) is coupled to said key rotatably combined with said axis.

(2) JP 3-145024 A  
Publication date: Jun. 20, 1991

< Description on the Relevance >

This is a document cited in the International Search Report.

※ The abstract of the above document (JP 03-145024) is attached hereto. It is available through the Japan Patent Office website (<http://www.jpo.go.jp>).

(3) JP 1-174826 U

Publication date: Dec. 12, 1989

< Description on the Relevance >

This is a document cited in the International Search Report.

(Claim 1)

An operation portion which operates a switch portion of a selector switch, said operation portion comprising:

a case which is like tube;

a spring bearing which is fixed in the tail side of the case;

an operation ring which is housed in said case, the position of which is on the head side of said case relative to said spring bearing, and which comprises, toward the head side of said case, a mountain-shaped projection and, toward the tail side of said case, a leg passed through a through hole of said spring bearing or a notch to be free to move straight and having a hook to be hooked on said spring bearing;

a spring which is housed in said case, the position of which is between said spring bearing and said operation ring, and which elastically pushes and separates said operation ring from said spring bearing;

an operation cam which is housed in said case, the position of which is on the head side of said case relative to said operation ring, and which comprises at least two kinds of recesses mountain-shaped toward the axial direction on an outer circumferential part of a tubular section to gear with said projection of said operation ring;

an operation axis which is housed in said case, the position of which is on the head side of said case relative to said operation cam, and which is fitted into said operation cam; and

a knob which is located on the head of said case for rotating said operation axis inside said case.

(4) JP 49-23775 U

Publication date: Feb. 28, 1974

< Description on the Relevance >

This is a document cited in the International Search Report.

(Abstract)

By turning an operation knob 12, a twist tube 8 turns and a projection 10' moves along a helical groove 8'. Since a movable rod 5 is connected to an operation member 10 by means of a linking pin 6, the movable rod 5 moves along with the move of the projection 10' so that a movable contact member 4 is bridged to a fixed contact member 2 to come into a close state. The close state can be maintained if the projection 10' moves to an upper horizontal groove 8".

(5) JP 58-142826 U

Publication date: Sep. 26, 1983

< Description on the Relevance >

This is a document cited in the International Search Report.

(Abstract)

Along with a divided rotating operation of a rotated operation axis 5, a slider 9 is gradually slid in the axial direction by an engaging function between an engaging pin 11 of the slider 9 and a helical groove 5C, thereby operating a switch in sliding manner between a movable contact piece 10 and a fixed contact 3. The slider 9 receives a lateral operation force during the function of the helical groove 5C, however, since a guide pin 12 of the slider 9 and a guide groove 13A of an operation plate 13 are in the engaged state, the slider 9 moves linearly along the guide groove 13A.

(6) JP 37-25337 Y2

Publication date: Sep. 22, 1962

< Description on the Relevance >

This is a document cited in the International Search Report.

(Abstract)

When projection portions 9, 9 are located at slopes  $\angle$  of cam grooves 7, 7, respectively, respective ends of the projection portions 9, 9 slide on sliding grooves 1, 1 and cam function of the slopes  $\angle$  of the cam grooves makes a locking rod 8 slide forward or backward relative to the outside. As a result, freedom of a knob and other items-to-be-locked in a car is locked or unlocked. Further, when the projection portions 9, 9 are located at respective horizontal parts  $\square$  of the cam grooves 7, 7 in the above-mentioned situation, rotation of a contact rotated piece 12 of a switch 14 realizes the desired switching between open and close of contacts. However, the projection portions 9, 9 only move freely on the horizontal parts  $\square$  of the cam grooves and never give the forward nor backward actuation to the locking rod 8, whereby the locking behavior by the locking rod 8 is never changed.

(7) JP 1-241723 A

Publication date: Sep. 26, 1989

< Description on the Relevance >

This is a document cited in the Specification of the present application.

※ The abstract of the above document (JP 01-241723) is attached hereto. It is available through the Japan Patent Office website (<http://www.jpo.go.jp>).